AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1 -11. (Canceled)

12.   (**Currently Amended**) A blazed diffractive optical element of the binary type, comprising:

at least one optical zone comprising binary microstructures with a variable fill factor etched on a surface of an optical material having a given index, forming an artificial material with effective index variation whose effective index varies between a minimum value and a maximum value of said element,

wherein the at least one optical zone of said element forms a composite artificial material comprising, in a first portion, microstructures according to a first pillar type geometry for which the effective index decreases with ~~an increasing~~the fill factor in a direction on said surface and, in a second portion, microstructures according to a second hole type geometry for which the effective index increases ~~in the same direction of increasing~~with the fill factor;

wherein the minimum and maximum effective indices of the composite material are determined from curves of variation in the effective index with respect to the fill factor of the microstructures, the effective indices being obtained at the design wavelength λ_0, and at a wavelength λ_∞ which is large compared with the design wavelength λ_0, so as to obtain an optimum value greater than 0 for a characterization parameter α of said one optical zone, said parameter being given by the equation:

$$\alpha = \frac{(\delta n_{min} - \delta n_{max})}{\Delta n(\lambda_0)}, \quad \text{where} \quad \Delta n(\lambda_0) = n_{max}(\lambda_0) - n_{min}(\lambda_0), \quad \delta n_{min} = n_{min}(\lambda_0) - n_{min}(\lambda_\infty) \quad \text{and}$$

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$\delta n_{max} = n_{max}(\lambda_0) - n_{max}(\lambda_\infty)$, where n_{max} and n_{min} are respectively the values of the maximum and minimum effective index at a particular wavelength; and

wherein incident light is diffracted in a single diffraction order.

13-16. (Canceled)

17.   (Previously Presented) The optical element as claimed in claim 12, corresponding to a binary synthesis of an échelette grating having a determined period Λ, wherein each optical zone of the microstructure corresponds to an echelon of the échelette grating.

18.   (Previously Presented) The optical element as claimed in claim 12, wherein each optical zone of said element corresponds to a zone of a Fresnel lens.

19.   (Previously Presented) The optical element as claimed in claim 18, wherein at least one optical zone is defined to have $0.3 \leq \alpha \leq 0.5$.

20.   (Previously Presented) An optical system for use in imaging with a wide spectral band or in a dual spectral band, comprising a diffractive optical element as claimed in claim 12.

21.   (Previously Presented) The optical system, as claimed in claim 20, configured for infrared imaging.

22.   (Previously Presented) The optical system, as claimed in claim 20, configured for imaging in the visible spectrum range.